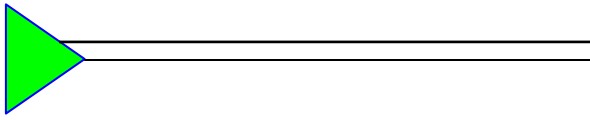

MagicCD / MagicDVD Series

CD/DVD Duplication Controller Card

DVD-319, CD-398, DVD-399, DVD-668, DVD-688

Operation Manual

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Aug., 2005

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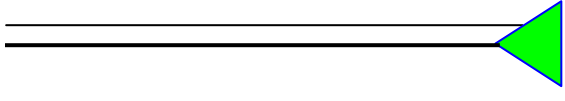

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1. Introduction

Thank you for choosing ***MagicDVD*** series CD/DVD duplication controller card. Hopefully this equipment will bring you satisfactory and great pleasure in CD/DVD duplication.

Features:

1. Stand-alone design, no PC or software required.
2. Easy operation, no training required.
3. Load, Copy, Compare, Verify, Emulate, Editing, etc.
4. Compatible formats depend on the writers installed.
5. On-the-fly direct copy or through hard drive loading.
6. Track selection available for copying music tracks.
7. Compatible with many brands of CD/DVD writers such as Pioneer, NEC, Lite-On, Asus, Sony, etc.

IMPORTANT NOTE:

1. Make sure voltage setting (AC115/230V) is correct.
2. Stable input of power is required for normal operation.
3. Duplicator should be placed in a clean & cool working environment.
4. Check, clean the master and CD/DVD discs before duplication starts.
5. Do not touch recording surface of the discs.
6. Do not move the duplicator during operation.
7. **DO NOT remove the serial number labels attached on controller card. Warranty will be VOID if any label is torn off or damaged. Wytron reserves the right to fix those cards without labels.**

8. **Warranty will be VOID if the controller card has been tampered with. Wytron will not accept to repair these controller cards even within warranty. The controller card must be maintained in the original shipped status to comply the warranty condition, no artificial modification allowed.**

2. Caution

In no circumstance will Wytron be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use of this product or documentation even if is advised of the possibility of such damages. Wytron shall not be liable for any hardware used with the product, including the costs of repairing, replacing, or recovering such hardware.

Wytron reserves the right to offer RMA service for non-warranty items due to availability of service parts and production changes.

3. Installation

You may get ***MagicCD*** or ***MagicDVD*** series duplicator in three possibilities:

A. Controller only

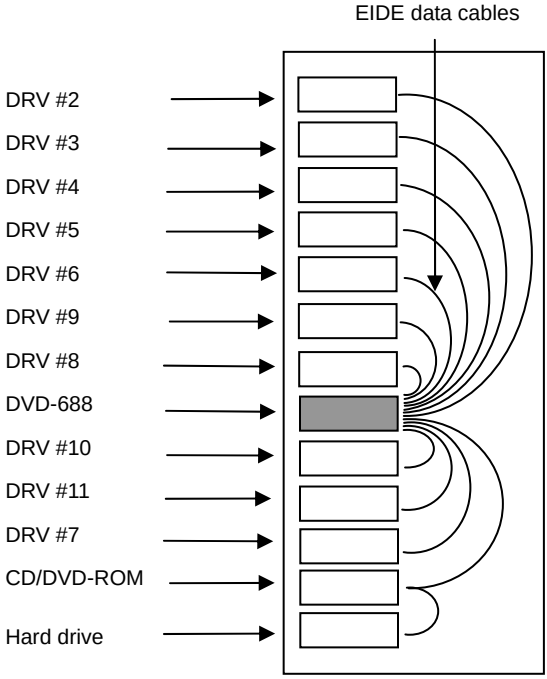
1. Prepare necessary devices including:

   a. IDE bus CD/DVD-ROM drive
   b. IDE bus CD/DVD writer.
   c. Suitable tower case.
   d. Hard drive.
   e. Switching power supply (Appropriate capacity is suggested. Bad quality of power supply might damage the controller board and cause unstable operation.

2. Assemble all required devices mentioned above and make sure all IDE writers are in master mode. The CD/DVD-ROM reader and hard drive (optional) have to be connected together at specific slot (black, besides the power connector) on the controller card with hard drive in master mode and CD/DVD-ROM in slave. The CD/DVD-ROM should be connected to the middle connector of an EIDE cable and the hard drive to the last connector. If there is only a CD/DVD-ROM or hard drive installed, the device should be in master mode and be always connected at the end of the EIDE cable.

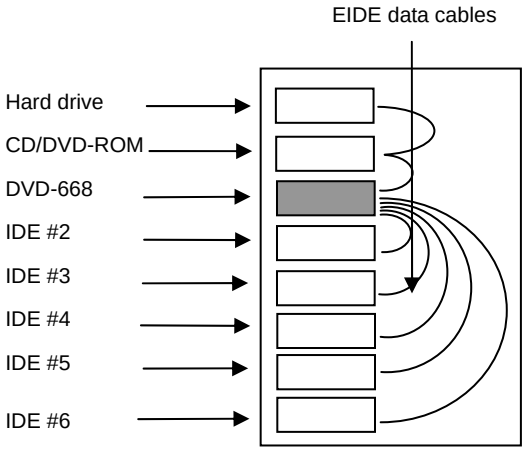
   Installation profiles are suggested below from left side of cross-section view. The number of writers installed may vary due to different controller card and requirements.

Model:***DVD-688***



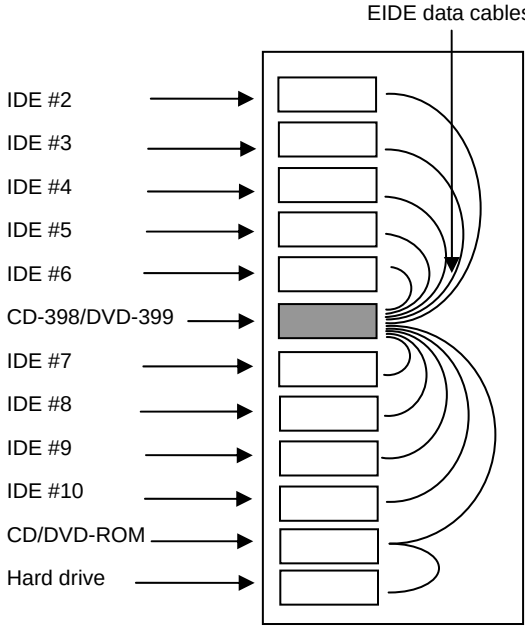
(Situation in max. connection)

Model:***DVD-668***



(Situation in max. connection)

Model:***CD-398/DVD-399***



(Situation in max. connection)

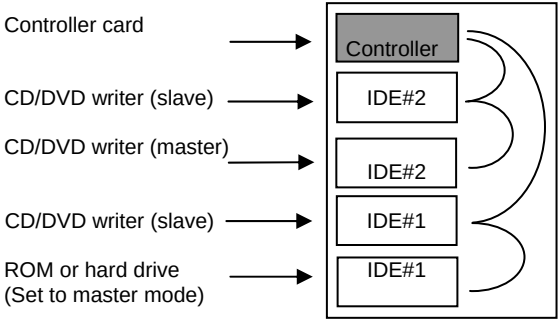
Note:

1. Since CD-398/DVD-399 is nine-target (10 EIDE ports on-board) controller board, the power consumption will be higher than that supplied by usual 300W power supply unit. We strongly recommend using 400W power supply unit to avoid lack of power. Lack of power supplying will cause unstable of operation and produce un-usable products. An edge-margin power supply unit might be workable in the very beginning but might be poor to supply sufficient power supply after a period of usage and then cause trouble.
2. The DVD-668 and DVD-688 are 5- and 10-target controller cards respectively. The power supply unit will be roughly required as 300W (DVD-668) and 400W (DVD-688) respectively. Lack of power supplying will cause unstable of operation and produce un-usable products. An edge-margin power supply unit might be workable in the very beginning but might be poor to supply sufficient power supply after a period of usage and then cause trouble.
3. Please use a tower case with up to 12 slots 5.25” bay to setup the CD-398/DVD-399 to hold 9 pcs of writer, 1 pc of CD-ROM/DVD-ROM, 1 pc of hard drive, and 1 position for controller card itself. Be noted that the size (Nos. of 5.25” bay) of tower case may be adjusted due to real requirement.
4. Please use a tower case with up to 13 slots 5.25” bay to setup the DVD-688 to hold up to 10 pcs of writer, 1 pc of CD-ROM/DVD-ROM, 1 pc of hard drive, and 1 position for DVD-688 controller card itself. Use a tower case with up to 8 slots 5.25” bay to setup the DVD-668 to hold up to 10 pcs of writer, 1 pc of CD-ROM/DVD-ROM, 1 pc of hard drive, and 1 position for DVD-668 controller card. Be noted that the size (Nos. of 5.25” bay) of tower case may be adjusted due to real requirement (7- or 9-bay

tower case is much easier to be located in the market).

5. Please refer to the sketches shown above to install your CD-398/DVD-399/DVD-668/DVD-688 duplicator. If less than 9 writers are connected on CD-398/DVD-399, please first remove the connection of red slot and then others (even number slot) in sequential. If less than 5 targets of writer are installed on CD-398/DVD-399, it is suggested to use IDE#3, #5, #7 and #9. **Be noted, always to leave free the IDE#2 red port if the connecting target number is 8 or less than 8 since the IDE#2 port is reserved only for 9th writer.**
6. The IDE#1 or DRV#1 is for CD /DVD-ROM and hard drive. If both CD/DVD-ROM and hard drive are connected, please set the hard drive as master mode and ROM as slave mode. *If only one device is installed, either ROM or hard drive, please set it to master mode and be noted to connect it at the end of an EIDE data cable. The connector located in the middle of an EIDE cable is only available for a slave mode device.*
7. BIOS chipset on board is fixed and welded on the controller board and cannot be replaced directly. Upgrade of BIOS can be done directly by the upgrade function on the controller card.

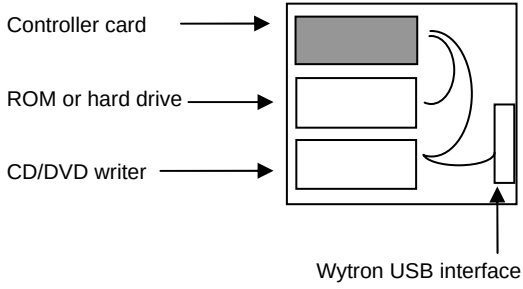
Model: ***DVD-319 to install three targets***



Note:

1. Please be noted that all the devices in the case, including the DVD-319 controller card, CD/DVD-ROM and CD/DVD writer, must be connected with 4-pin power cable which holds 12V (in yellow color), 5V (in red color) and two black ground wires. Power cable only with 5V (red wire) is not enough for the duplicating controller card.
2. For connecting three targets, please chain two drives per channel, be noted the master device at end connector and slave device at middle connector on an EIDE cable (ROM/HDD at IDE#1 in master mode). For connecting two targets on DVD-319, please free first the slave mode IDE#2 port.
3. The USB connection is possible but be noted the USB interface is an option device. Installing the USB on DVD-319, please use the connector for master at IDE#2 and also be noted the max. target number will be 2 only, instead of 3 targets, if the USB is connected.

Model: ***DVD-319 Bare Bone***



Note:

1. Please be noted that all the devices in the case, including the DVD-319 controller cards, CD/DVD-ROM and CD/DVD writer, must be connected with 4-pin power cable which holds 12V (in yellow color), 5V (in red color) and two black ground wires. Power cable only with 5V (red wire) is not enough for the duplicating controller card.
2. Please set two devices as master mode in each channel. If the ROM and hard drive are both required in special status, please replace the original cable with a new one which can chain both ROM and hard drive on same channel. In this case, please set hard drive to master and slave to ROM.
3. Be noted the USB interface is a standard device when you purchase the DVD-319 bare bone (Wytron two-bay chassis).

B. Bare bone unit without writer installed

1. Unpack the package of duplicator.
2. Prepare the CD/DVD-ROM and CD/DVD writers according to the device recommendation in this manual and refer to the Part A above for installation. Please check for list compatible writers if needed.
3. Check the entire unit. Return it if there is any mal-function or damage found.
4. Assemble the duplicator according to your need.
5. Make sure that the voltage setting is correct.
6. Customers can purchase the optional Wytron USB 2.0 module that enables you to link one of the writers in the duplicator to PC for external usage.

C. Completed duplication system

1. Unpack the package of duplicator.
2. Check the entire unit. Return it if there is any mal-function or damage found.
3. Make sure that the voltage setting is correct.
4. Customers can purchase the optional Wytron USB 2.0 module that enables you to link one of the writers in the duplicator to PC for external usage.

4. Operation

1. Power on the system and you will see a self-testing procedure running. The following display will appear:

CD398 V3.17 2004 WYTRON TECHNOLOGY

detect drives ……

Copy AG234M14:23 <mode

AG234M14:23 ➔ Length of Master contained in hard drive. It varies from masters or may not exist if there is no data stored. No messages will be displayed on top-right corner if hard drive is not installed.

AG ➔ Partition G in A group of hard drive

234M ➔ Capacity at AG partition in MB

14:23 ➔ Capacity at AG partition in minute

2. Different devices installed in duplicator will require different operation procedures including two main categories:

AA. With hard drive installed

a. Duplicator will automatically detect the hard drive and create partitions for it (each partition will have 850MB capacity for CD duplicator, e.g. 40 GB Hard Disk will probably have 44 partitions. For DVD duplicator, 4.8GB or 9.6GB for each partition.)
b. You can select partition in the “hdd partition group” function in Setup Menu.
c. If there is no data stored in present / selected partition of hard drive, press the MODE switch to select “Load” function and place the master disc into the CD/DVD-ROM drive which will automatically detect the master, analyze and load data into the present / selected partition. The master disc will be ejected when loading is completed. In case of error, the LCD will show “error” and the master disc will also be ejected automatically. Change another master disc for loading. Master data can be stored in different partition, switch to that particular partition (Please refer to hdd partition group) for loading.
d. Switch to Copy by pressing MODE switch. Place blank CD/DVD discs into all the writers. Duplicator will start copying when all writers detect the discs. If you do not need to use all writers for copying, the LCD display will display the number of CD disc detected as “ Xstart” (X represents the number of writers with detected discs that are ready to copy). Press the GO switch and operation will start instantly. There is no limitation on number of discs to be copied in one round (Vary on different model, CD-398/DVD-399 will be 9 pcs. in maximum targets. For DVD-299 controller card, there will be three targets in maximum.) or there is any limitation on sequence of writer to start with. In other words, you may copy one disc only using any one of the writers randomly.

e. When Copy is completed on all writers, those discs passed will be ejected automatically (default setting: Passed discs will be ejected but this can be changed according to your need). For continuous duplication, place additional blank discs into the writers and repeat the above procedures.

f. Failed disc(s) will remain in respective writer(s) (Default setting: Failed discs will NOT be ejected but this can be changed according to your need). Press MODE switch will eject those failed discs from writers or press each eject button on the writer to eject disc manually.

g. The duplicator will prompt you an error message when you try to copy a partition that contains no data. In this case, switch to “Load” function to load data first.

h. Do not press any switch during operation as interruption / termination of operation will cause error and might cause the duplicator to hang up (depend on writers installed). The write-once discs during operation will be ruined and might not be used again.

BB. Without hard drive

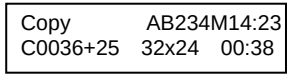
a. Switch to Copy by pressing MODE switch. Put blank discs into all writers and duplicator will start copying when all writers detect the discs. If you do not need to use all writers for copying, the LCD display will display the number of disc detected as “ Xstart” (X represents the number of writer with detected discs that are ready to copy). Press the GO switch and operation will start instantly. There is no imitation on number of disc to be copied in one round (Vary on different model, CD-398 / DVD-399 will be 9 pcs. in maximum targets. For DVD-299 controller card, there will be three targets in maximum. For CD-129 and DVD-299 one to one duplicator, there is

only one target.) or neither there is any limitation on sequence of writer to start with. In other words, you may copy one disc only by using any one of the writers randomly.

b. When Copy is completed, the passed discs will be ejected automatically (Default setting: discs passed will be ejected. This can be changed according to your need). For continuous duplication, place additional blank discs into the writers and repeat the above procedures.

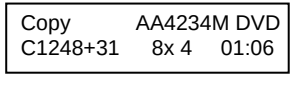
c. Failed disc(s) will remain in respective writer(s) (Default setting: Failed discs will NOT be ejected. This can be changed according to your need). Press MODE switch will eject those failed discs from writers or press each eject button on the writer to eject disc manually.

3. Explanation of messages shown during operation:



If CD writer installed

Copy: Current function
AB234M24:32: AB partition with 234MB data, 24:32 in total
C0036+25: Copy to 36MB and 25MB data in memory buffer
32X24: Set 32X write speed and 24X current write speed
00:38: Total elapse time



If DVD writer installed

Copy: Current function
AA4234M DVD: AA partition with 4234MB data for DVD
C1248+31: Copy to 1248MB, 31MB data in memory buffer
8X 4: Set 8X write speed and 4X current write speed
01:06: Total elapse time

4. The message shown after function is finished:

OK x NG x TOK xxxxx C3852+00 16x12 05:38

(Copy for example)

OK x: The passed target number for current operation
NG x: The failed target number for current operation
TOK xxxxx: The counter for total passed target number for operation in current function

Note: The TOK (Total in OK) counter will be reset when the master is reloaded (from CD/DVD-ROM) or partition changed (from hard drive) or operation of function changed.

5. Latest controller card is equipped with 3 buttons, one “BACK” extra push button is added than before for easier selection of function. The “BACK” button will be used as backward selection of function only. For example, if users select the function by pressing the “MODE” button no matter in Main menu or Sub menu forwardly, once if the “MODE” button is pressed too fast to miss the target function, users can then press the “BACK” button to reverse the selection. Be noted that the “BACK” button will not be used in those control setting built-in under “Setup” function.

   Furthermore, in “MODE” button, the function can be selected in a rotation but not for “BACK” button which will come to the end as one way selection.

5. Main Function

Main functions explained below (Copy, Copy+Comp, Compare, etc.) are based on factory's default setting. Different settings will cause duplicator to react differently. Please press and keep holding down the MODE switch while turning on the power till the "clear setup" message is shown on the LCD; the duplicator will return to factory's default setting as a reset.

5.1 Copy

Make sure the present partition in hard drive is correct and contains data (with hard drive installed) or the master disc is loaded in the CD/DVD-ROM drive (without hard drive installed) before copying. Place blank CD/DVD discs into the writers, when all writers detect the CDs/DVDs, duplicator will start copying automatically. When fewer copies are required, place the required number of blank CD/DVD discs into writers. Till you see a number "X" of "X"start which matches the number of disc placed in the writer(s), press the GO switch manually to start the duplication.

When Copy is finished, those discs passed will be ejected automatically and failed ones will be remained in writers. Press MODE switch to eject failed discs. Put new CDs/DVDs in the writers for additional copy. Duplicator can also copy rewritable discs containing data if the writers are capable of writing the rewritable discs. Data stored in rewritable discs will be quickly erased automatically before copying new data, no special setting or procedure required to erase the old data.

5.2 Copy + Comp

This function will do copying and also comparing the passed discs with the master. Under this function, the discs that passed in copying will be ejected and re-inserted again automatically for compare purpose. The passed discs will be ejected automatically after comparison. The failed discs will remain in the writers. Press MODE switch will eject those failed discs.

Only data CD/DVD will be compared with the master, VCD, Vedio DVD or music CD/DVD will not be compared.

5.3 Emulate

This function performs emulation similar to Copy function except that data is not really written onto the disc. The CD/DVD discs will be remained blank when emulation is completed. For rewritable discs that contain data, emulate will do quick erase of all old data before emulation. Thus, never do Emulate function on rewritable discs that contain important data. (Be aware that DVD+R disc cannot be emulated since the real copy will be used instead of emulation.)

Termination halfway of Emulate will not affect the write-once discs and they will be remained as blank. But please note that rewritable disc containing data will be destroyed and cannot be retrieved again.

Some writers may not support sudden termination during operation. Duplicator may hang up and you can only reset those writers by rebooting the duplicator.

5.4 Emu + Copy

This function combines the emulation and copy function within one selection. First the machine will do the emulation and then continually copy the disc if there is no error during emulation. The passed discs will be ejected and the failed ones will be remained in the writers. Those failed discs must be removed manually. (Be noted the DVD+R disc will not be suitable for Emulate function)

5.5 Compare

This function does data comparison between master and target discs. But only data CD/DVD disc will be compared fully. VCD, movie DVD and music CD/DVD will not be compared.

5.6 Quick Erase

This function is only used for a rewritable disc with data existed. It would quickly erase the rewritable disc and then the data on it will be disappeared after running this function.

5.7 Verify

This function does verification of target discs. Different discs in the writer and CD-ROM/DVD-ROM drive can be verified together simultaneously.

5.8 Load (if HDD installed)

Function only exists when there is a hard drive installed. Please use “Load” function to load master data before doing duplication or other function. If the master is preloaded, please switch to correct partition to copy or do others.

Place the master disc into the CD/DVD-ROM drive, the duplicator will automatically detect and analyze the master and load it into the current partition of hard drive.

Hard drive installed on duplicator will be automatically partitioned by 850MB (CD writer installed) or 4.8GB (SL DVD writer installed) or 9.6GB (DL DVD writer installed) in each partition (Please refer to HDD Partition Size for more detail). Number of partitions available depends on the hard drive’s capacity. No pre-formatting or software setup is required to install the hard drive with Wytron’s controller card. Each partition in hard drive will be labeled in alphabetical order starting from AA, AB, AC…etc. Current partition number can be selected under “hdd partition group” in the Setup menu.

Duplicator will prompt you an error message when you try to copy from a partition that contains no data. Switch to proper partition to copy or use “Load” function to load the master data to current partition.

5.9 External

When choosing External function and press GO button to activate, the duplicator will release the control of devices installed on duplicator and then the drive internally

connected to Wytron's USB 2.0 interface card will be available for external usage. At this moment, users can link an external USB cable from remote PC to duplicator, thus the PC will auto-detect the USB device in duplicator for remote usage. (PC with Microsoft Windows 98® OS system will need the software driver to recognize the external USB device in duplicator. Contact or download the software driver from Wytron if needed.)

Duplicator will not be usable again after External function activated except for rebooting. Please remove the external USB cable from duplicator first and then reboot duplicator when the standalone operation on duplicator is required.

6. Sub-function

In main menu, press and keep holding down the MODE switch for more than five seconds till the da-da-da sound heard from the controller, the menu will be switched to sub-menu and vice versa.

6.1 Setup

As there are different settings under the setup function to control the duplicator's operation, we suggest using the original default settings for optimal operation. Changes should be made only when you are fully familiar with the function. Also please be noted that the function settings listed below are summary for all possibility of devices installed and might not exist in your duplicator.

6.1.1 Start Writers

This setting controls the number of writer that will work in duplicator and normally it should be equal to the number of writers installed in duplicator. Number of writers set is less than that actually installed will limit the working writers. If 5 sets of writer are installed, for example, number setting of 2 will allow using only two writers at one time. Duplicator will start the operation instantly when any 2 of the 5 installed writers are ready (disc detected). The rest 3 writers will be idle.

Press MODE will change the setting and press GO to bring you to next setting.

6.1.2 Write Method

This setting controls the writing methods of CD/DVD disc including “Disc at once” or “Track at once”. “Disc at once” will be the default setting. Some writers may support different writing methods. If the method selected is not supported, duplicator will automatically switch to the other one.

Press MODE will change the option of setting and GO to bring you the next setting.

6.1.3 CD Write Speed

This setting controls the maximum CD writing speed of writers. Default setting is “32” which will use 32X write speed to write the CD disc. The reason why it isn’t set to max is that the CD-ROM readers in the market cannot access the master disc as fast as the write speed if the write speed reaches 40X or above. Sometimes maximum write speed will cause high failure rate that may be due to poor CD quality or unstable CD writing in high speed. If installed CD-ROM’s reading speed can reach higher or even lower, please increase or lower the CD writing speed manually to get higher successful rate in writing. Press MODE to change the option and GO to exit.

6.1.4 DVD Write Speed

This setting controls the maximum writing speed of DVD writers. Default setting is “MAX” which will use the fastest writing speed of writers. Sometimes maximum writing speed may have higher failure rate that may be attributable

to poor quality of DVD disc or unstable writing under high speed. Under this circumstance, please lower the write speed under this setting. Please note that this is not the problem of the controller itself.

There is also situation that un-authorized blank DVD disc will be locked and restricted in some DVD writers to write at higher speed. This situation is not under Wytron's control. Press MODE to change the setting and GO to exit.

6.1.5 CD-ROM Drive

CD-ROM drive can be selected manually. Default setting is "auto" and the duplicator will select the CD/DVD-ROM drive automatically. The option will be in series like ATA1.0, ATA2.0, ATA3.0, ATA4.1, etc., The number shown depends on the devices being detected by duplicator itself when booting. The ATA1.0 means ATA device connected at IDE#1 with master mode setting (0) on device. The ATA4.1 means ATA device connected at IDE#4 and with slave mode setting (1).

Press MODE to change the setting and Go to exit.

6.1.6 Autoloader (if autoloader installed)

This duplicator can be used as an independent controller card for external auto-loading mechanism. If autoloader is installed, this setting must be set to correspondent type such as "CDF4800", "classic", "class2", "extended", "extend2", etc. Default setting is "No". The external auto-loading mechanism must be qualified and approved by Wytron. Any non-approved equipment may damage the controller card and affect operations. To connect the

autoloader, you will also need an extra COM port module from Wytron to communicate between controller card and autoloader. If no autoloader is connected actually but set this option by mistake to one of the types for autoloader, during new power booting, the controller card will hang in “check loader…” message which is intending to search and communicate with the autoloader. Please change back the setting of this function to “No” option when the hang is finished (might take quite a long time) or simply “reset” the machine once to bring back the factory’s default setting on controller card.

Press MODE to change the setting and GO to exit.

6.1.7 Eject Disc

This setting controls the ejection of discs by writer. Three options are available: “Always” means the writers will always eject the discs no matter whether operation is successful or failed. “No” means all discs will remain in writers when job is done and you will have to eject discs from the writers manually. “Pass” setting will only eject the passed discs automatically and leave the failed ones in the writers. Press MODE button will eject those failed discs.

Press MODE to change the setting and GO to exit.

6.1.8 Buzzer

This setting controls ON and OFF of buzzer. Default setting is “On”. Press MODE switch to change and GO to exit.

6.1.9 CD+G

This setting activates the copy capability of CD+G format. It cannot be copied if the writers don't support this format. Default setting is "No".

Press MODE switch to change and GO to exit.

6.1.10 CopyComp Eject

This setting controls the ejection of writers' trays under "copy + compare" function. If the setting is "Yes", the trays will eject the passed discs after copying and it will re-insert the same discs again for subsequent comparison. If setting is "No", the trays will not be ejected between copy and compare. The default setting is "Auto" which means ejection of trays will depend on the writers. If it supports auto-ejection, the tray will be ejected after copying. If not, the tray will not be ejected even when setting is "Yes".

Press MODE switch to change and GO to exit.

6.1.11 Read CDDA index0

The setting controls the copying of data existed in index0. Set to "Yes" will copy the data and set to "No" will make it empty. Press MODE switch to change and GO to exit.

6.1.12 Skip Read Error

This setting controls error skipping during source reading. The default setting is "No". When an error is detected during loading, the duplicator will stop to load and display read

error message. If the setting is “Yes”, there will be no message shown even there is an error in reading. You can use this function to copy some discs with errors.

Press MODE switch to change and GO to exit.

6.1.13 MODE 2 Compare

This setting can be activated to compare some data format stored in “MODE 2” disc. Default setting is “No”.

Press MODE switch to change and GO to exit.

6.1.14 Power On Wait

The setting controls the detecting time (in second) for devices that connected to the duplicating controller card. Default is 15.

Press MODE switch to change and GO to exit.

6.1.15 Show version

The model number and BIOS version, built date of BIOS will be shown on the display directly when switching to this position.

6.1.16 Go load trays

Normally when loading the disc onto each drive, customer has to push the “eject” button to insert the tray or push slightly the tray into the drive. To save labor, with “Yes”

setting of this function, customer can load first the discs onto all trays on drives and force those trays to insert with pressing the “Go” button once on controller card. Default setting is “No”.

Press MODE to change the setting and Go to exit.

6.1.17 Transfer mode

This function controls the data transfer mode between connected devices with controller card and there are three options built-in, MDMA 16, UDMA33 and UDMA66.

Some advanced writers in the market are featured with UDMA66 transfer mode. With such writers installed, set to UDMA66 option will improve the performance, also the stability. But be noted that if set to UDMA66 option, all devices connected on controller card must feature with same UDMA66 spec., including ROM and hard drive. If one of the connected devices doesn’t support the UDMA66 feature, the system might become unstable or even hang.

Most of the writers in the market support only UDMA33 and the default setting on controller card will be UDMA33.

If option is changed, after quitting the function, make sure to reboot the system to make the changing activate. Without rebooting the system, the transfer mode will not be switched correctly.

6.1.18 Turbo Copycomp

This function is built for ultimate burning speed through removing unnecessary interrupting detection in BIOS programming, compared to traditional programming on Wytron's products. Several conditions must be complied to make this option work: (a) For DVD only (b) Master hard drive or master DVD-ROM to be connected at IDE#1 or both connected at IDE#1 by setting hard drive in master and DVD-ROM in slave (c) Abort during operation is canceled.

Default setting is "No". Press MODE to change the setting and Go to exit (Reboot is required if option is changed).

6.1.19 Change Password

This setting restricts the usage for those unauthorized people to use this machine. Once set, there will be password required when booting and only those users knowing the password can use this machine for operation.

Press the MODE button to Yes to activate the Change Password function and quit by pressing the GO button. The LCD display will prompt you the "New Password?" and then ask you to input the digit for "Password 1". You may press the MODE button to select the number (the number is a cycle loop) as "Password 1" and after selection, press GO button to quit. The "Password 2" will be shown on the LCD display and again you can select the second digit the way you have done for "Password 1". In the following steps, input two more digits for Password 3 and 4 in similar operation. Total there will be 4 single digits for Password 1 to 4 respectively.

After completing the password changing, system will record the 4 digits password and when you reboot the machine or need to change the password again, system will ask you to input the current password for identification.

Password can be changed again by setting Yes to the Change Password function but the current password must be input correctly first. If user wants to disable the password function, simply set the password to 0000 and then the password function will be deactivated (0000 cannot be set as password).

Wrong password input during the booting stage will cause the hang of duplicator and freeze all operation. User must restart the machine to input the correct password again.

6.1.20 Startup Command

This setting specifies the first function appeared when duplicator is turned on so as to avoid repeated selection all the time.

Press MODE switch to change and GO to exit.

6.1.21 CD to CD (if HDD installed)

This setting controls the source location of master data. Select “Yes” to bypass the existing hard drive and you can copy directly from CD/DVD to CD/DVD or select “No” to copy CD/DVD from data stored in current partition of hard drive. This option setting will not be saved and will be restored to “NO” during rebooting of duplicator. You will have to change the setting again after rebooting if you wish

to use on-the-fly direct copy while there is a hard drive installed. This setting will appear only if there is a hard drive installed. Press MODE switch to change setting and GO to bring you to next setting.

6.1.22 HDD Partition Size (if HDD installed)

This setting defines the partition size that created on connected hard drive by controller card itself. Any hard drive connected on Wytron's controller card will be partitioned by controller card itself and end-user needs not to pre-arrange any additional process on the hard drive. User just needs to connect the hard drive on the Wytron's controller card and then the controller card will handle the partition job automatically. All the data stored in hard drive before connecting on controller card will be erased and overwritten after connection on the controller card and end-user must avoid of using such hard drive with valuable data in it.

There are total four option settings under this function which are Auto (default setting), 850M, 4.8G and 9.6G. The default setting of this function is Auto which will handle the partition size by controller card itself during drive detection when booting. If controller card finds no DVD writers in the connected drives, the 850M of partition size would be chose. If there are DVD writers detected by controller card and the first of them supports the DL (Double Layer), the 9.6G of partition size would be auto-selected. But if this first detected DVD writer only supports the single layer DVD, the 4.8G partition size would be used, instead of 9.6G.

When the Auto is set in this function, there is a potential danger for end-user which needs to be taken care of.

When the CD writers are originally connected on Wytron's DVD controller cards, with hard drive installed, the 850M partition size would be used. If user installs a DVD writer suddenly for testing purpose, the hard drive would be re-partitioned automatically by 4.8G or 9.6G, depending on the DL or SL supported on this DVD writer. Under this situation, the original data stored in the hard drive (by default 850M partition size) would be vanished due to re-partitioning. If there are important data stored in the original partitioned hard drive, end-user must switch the setting of this function manually to 850M or other setting to fix the partition size in order to avoid of changing for the partition size by controller card due to different writers installed in system.

After selection, if partition size is changed physically, the changing will be effective immediately when quitting of this function and the end user needs not to reboot the system. When leaving this function, the controller card will show you the message of "Partition Size is xxxxx, Total yyyy parts." The xxxxx is the current selected partition size of this system and there will be total yyyy partition number in the hard drive.

6.1.23 Hdd Partition Group (if HDD installed)

This setting assigns the current working partition group on hard drive, if HDD installed. Press MODE switch to change the setting and press GO to exit. After selecting the partition group, press exit button will bring you to the next sub function as "Hdd Partition of X" for more selection of the partition number in that group (X represents the partition group you selected previously). After choosing the partition number, press the exit button will bring you back to Copy function located in the main menu.

The modern hard drives normally contain large capacity. In order to organize and utilize the capacity well, controller card will manage the capacity in an idea for two-level management: partition group and partition number. The partition group is somewhat like the category and the partition number is the sub-item in that category. By using this idea, controller can have up to 26 categories; each category has up to 26 partition numbers, total 676 (26x26) partition numbers. To be a CD duplicator, each partition normally holds 850MB and for DVD duplicator, it holds 4.8GB or 9.6GB. Under this management, the capacity on hard drive would not be wasted and under the control of our duplicating controller card.

After selection, each partition will have two letters to represent such as AC, BD, etc. The AC means A group C partition and BD means B group D partition. If you get a 40GB hard drive installed with the controller card, you might have 42 partitions from AA to AZ and BA to BP. There will be two groups in your hard drive: A group contains 26 partitions and B group contains 16. The entire configuration will be done automatically and you don't have to run special software utility to make these partitioning. Be noted that this setting will disappear if there is no hard drive installed.

6.1.24 HD to CD Write Speed (if HDD installed)

This setting controls the maximum CD writing speed of writers when the hard drive is installed in the system. Default setting is "MAX" which will use the highest CD writing speed. Sometimes maximum writing speed will cause higher failure rate that may be due to poor CD quality

or unstable CD writing in high speed. Under this circumstance, please lower the writing speed under this setting to get higher successful rate. On the contrary, lower value setting will make the writing speed slower and confuse you as a problematic duplicator. Press MODE to change the setting and GO to exit.

6.1.25 HD to DVD Write Speed (if HDD installed)

This setting controls the maximum DVD writing speed of writers when the hard drive is installed in the system. Default setting is “MAX” which will use the highest DVD writing speed. Sometimes maximum writing speed will cause higher failure rate that may be due to poor DVD quality or unstable DVD writing in high speed. Under this circumstance, please lower the writing speed under this setting to get higher successful rate. On the contrary, lower value setting will make the writing speed slower and confuse you as a problematic duplicator. Press MODE to change the setting and GO to exit.

6.1.26 Grip before accept

When the option of “Autoloader” function is set to “extended” or “extend2”, the setting of “Grip before accept” must set to “Yes” correspondently which will ask the autoloader do the index repositioning during power booting stage. If with other setting in “Autoloader”, please choose “No” in this function.

6.1.27 Load Nonblank Disc (if HDD installed)

This setting is mainly for Autoloader and controls the loading of non-blank disc in any writer. If setting is “Yes”, whenever there is a non-blank disc detected by the writer, the duplicator will go to “Load” function automatically and start loading the data from that non-blank disc into current partition of hard drive. Through this function, you can control the Autoloader to copy multi-master discs fully automated. Press MODE to change setting and GO to exit.

6.1.28 CDDA load speed (if HDD installed)

Normally, when reading music track, the CD/DVD-ROM drive will automatically lower the reading speed significantly. Unstable reading situation may happen if we use the maximum speed of CD/DVD-ROM drive to read music track. This will affect the quality of music CD/DVD duplicated. This setting change the speed of music track loading to enhance stability of music track reading. Default setting is “AUTO”.

Press MODE to change the setting and GO to exit.

6.1.29 Language (for DVD-6xx series only)

There are several languages built-in for menu displaying and you can switch it by this function to match your requirement accordingly. The default setting is “English”.

6.2 Edit

Edit function, in sub-function, is a track-selecting function that can combine tracks on different master discs into one single disc. For example, you can make a collection of favorite songs from different master music discs and store them into one disc.

Switch to “Clear” function to erase the existed data, if any, in the hard drive’s current partition to store the new music tracks. Switch to EDIT by pressing the MODE switch in sub-function, load your master disc into CD/DVD-ROM (if there is no hard drive installed, the blank CD/DVD discs must be inserted to writers for “track at once” on-the-fly instant copy). Duplicator will analyze the master disc and show total xx tracks on LCD display and finally stop at:

Begin track		
[+]	0	[Quit]

Press MODE switch to change the number of track (song) that you wish to start with and then press GO switch to quit. After quitting, the LCD display will stop at:

End track		
[+]	0	[Quit]

The number selected must be same or larger than that selected in “Begin track”. Same number means you want to select a single track and larger number means you want to select a sequence of tracks in that particular master disc. After selecting the “End track”, duplicator will bring you back to “Begin track” selection. Repeat the same procedures to collect other tracks in different sequence that you want to copy. If no more track is selected, press GO switch directly

at “Begin track” and press once again GO at “End track” to exit. Duplicator will start loading those music tracks selected into the current partition of hard drive. After finishing loading, the master disc will be ejected automatically and LCD will display the message of “Pass”. You may change the master disc and run the Edit function again to gather more music tracks from different master discs. When finishing the collection, switch the function to Copy and place blank CD/DVD discs into writers for copying.

If there is no hard drive installed and when selection of music tracks from the master disc in CD/DVD-ROM drive is completed, the duplicator will prompt you the message:

Finalize [+] No [Quit]

If there are still other tracks need to be collected, the setting of Finalize must be “No”. Press GO switch to quit and the duplicator will start to copy directly the selected tracks onto blank discs. After finishing the copy, the master disc will be ejected automatically and prompt you “Pass” in the LCD display. You will note that the target discs in writers will not be ejected at this moment. You can change another master disc in the CD/DVD-ROM drive. Duplicator will analyze the master disc and bring you to the “Begin track” message on LCD again. You can repeat the procedures described above to collect more tracks from another master disc. If this master disc is the last one that you collect, change the setting of Finalize to “Yes” and press GO switch, duplicator will start to copy and close the target discs in the writers. If all of discs pass copying, they will be ejected from the writers automatically.

Please study the following examples carefully and follow the

instructions step by step. You will find it is very easy to collect tracks by the duplicator.

Example 1: To make collection from two masters with hard drive installed.

No.1 master disc: 2, 4, 6-8 songs.
No.2 master disc: 3-6, 9, 13-16 songs.

a. Switch to Clear Master function and press GO switch to clear data in the existing partition of hard drive.
b. Switch to Edit function.
c. Place No.1 master disc into CD/DVD-ROM drive under the EDIT function and wait for duplicator to analyze it.
d. Press MODE switch to number 2 at “Begin track” and press GO switch to quit.
e. When “End track” is displayed on the LCD, press GO switch to quit directly since first song number is 2.
f. Press MODE switch to number 4 at “Begin track” and press GO to quit.
g. When “End track” is displayed on the LCD, press GO switch to quit directly since the first song number is already 4.
h. Press MODE to number 6 at “Begin track” and quit.
i. Press MODE to number 8 at “End track” and quit.
j. Press GO switch directly to following “Begin track” and End track” selection to finish the track selection on No. 1 master disc.
k. Duplicator will start to collect the tracks that you selected just now into current partition of hard drive.
l. After loading is finished, duplicator will eject your master disc and show “Pass” on LCD.
m. Place No.2 master disc into CD/DVD-ROM drive and continue the selection from second master disc.
n. Repeat procedures (d) to (j) above.

o. Once the accumulated length of tracks selected has exceeded the maximum capacity in partition. The duplicator will stop to accept additional tracks.
p. Switch to “Delete” function to delete the last track stored in current partition in hard drive if necessary.
q. Switch to Copy to start copying the new collection.

Example 2: To make collection from two master with HDD.

No.1 master disc: All tracks
No.2 master disc: 4-6 tracks

a. Load the No.1 master disc normally by using Load function. Data, if any, in the current partition will be erased and replaced automatically tracks of this master disc.
b. Load No.2 master disc by using EDIT function but keep the data stored in hard drive. The is no need to do Clear function as described in Example 1 or you will loss the data of No.1 master disc.
c. Repeat the other steps described in Example 1.

Example 3: To make collection from two masters without hard drive installed.

No.1 master disc: 2, 5, 7-13 songs.
No.2 master disc: 5-7, 9, 12-15 songs.

a. Switch to Edit function.
b. Place No.1 master disc into CD/DVD-ROM drive and certain blank discs into the writers under the EDIT function and wait for duplicator to analyze it.
c. Press GO button to start the operation if number X in “Xstart” shown on LCD display meets your required copy number.
d. Press MODE switch to number 2 at “Begin track”

and press GO switch to quit.

e. When “End track” is displayed on the LCD, press GO switch to quit directly since the number shown is already 2.

f. Press MODE switch to number 5 at “Begin track” and press GO to quit.

g. When “End track” is displayed on the LCD, press GO switch to quit directly since the track number shown is already 5.

h. Press MODE to number 7 at “Begin track” and quit.

i. Press MODE switch to number 13 at “End track” and quit.

j. Press GO switch directly to following “Begin track” and End track” selection to finish the track selection on No. 1 master disc.

k. The next function will be Finalize setting. Since there is still another master to be selected from, leave the option as No and press Go to quit.

l. Duplicator will start to copy those tracks you selected just now onto blank target discs in writers.

m. After copy is finished, duplicator will eject master and show “Pass” on LCD but those un-finalized discs will still be remained in writers for further operation.

n. Load No.2 master in ROM drive and continue to select from second master.

o. Repeat steps (d) to (k) above but change the Finalize setting to Yes in (k) and the duplication for tracks selected will then begin.

p. When copy is finished, the passed discs will be ejected from writers directly.

q. If total capacity of selected tracks exceed the max. capacity on the detected blank discs, the duplicator will refuse to accept additional track selection.

6.3 Delete

When the last music track stored in hard drive is not the one you wish to keep, switch to “delete” function and press GO switch to delete it. You may always use this function to delete the last track stored in the current partition of hard drive.

6.4 Clear

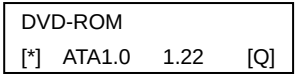
This function clears the master data stored in the current partition of hard drive. When you want to EDIT a new collection of songs, you must run this function first to clear the current partition of hard drive. Perform this function by pressing GO switch at “Clear” function and LCD will show: “Master cleared”.

6.5 Disc Info

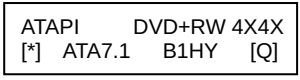
By using this function, users can get information from the media discs that loaded in the writers, such as max. write speed, capacity, etc.

6.6 Show Drive

This setting shows the devices connected to the duplicator such as CD/ DVD-ROM, CD/DVD writers and hard drive, etc. It also displays the devices’ firmware version that sometimes provides a useful hint for trouble shooting or for future upgrade. It is suggested to use writers with SAME firmware version to avoid inconsistency. The display is as below:



It means the first slot (IDE#1) on controller board is connected with DVD-ROM that is set to master mode (0) and its firmware version is 1.22.



It means the 7th slot (IDE#7) on the controller board is connected with ATAPI device DVD+RW writer that is set to slave mode (1) and its firmware version is B1HY. The first digit after ATA is slot number and the digit behinds the dot is master and slave mode, 0 for master and 1 for slave.

6.7 Burn in

This function is a burn-in test function. It will run the emulate write function continuously. Between each cycle of emulate write, the blank discs in writers will be ejected automatically and re-insert again for continuous testing. There is no real writing on the blank discs and the discs will remain blank as original after test. (DVD+R disc is not available under this function)

6.8 Update

Functions on duplicator will be improved for better performance or for other reasons. This function will update your firmware to the latest one or desired version. Switch to "Update" function first and then load the master disc containing the latest firmware xxxxxxx.bin into CD/DVD-ROM drive and the duplicator will find the data and update its firmware automatically. During updating, don't turn off the power of machine since the update will not be finished till machine tells you to restart the machine such as "Please restart". (Turning off machine during updating might cause severe result such as no booting, etc. Also, it is suggested to wait for 10 seconds even the LCD display is showing you to restart the power.)

Procedures to make the BIOS disc by yourself:

1. Get the BIOS firmware from Wytron through e-mail (wytron@wytron.com.tw). Be careful not to use the wrong firmware, as it will cause duplicator to hang up and not to function correctly.
2. Unzip the BIOS firmware and write the file **"cdxxxx.bin"** or "**dvdxxxx.bin**" into the root directory on a blank CD/DVD disc. Session of the CD/DVD has to be closed. If the same disc still has capacity to add data, it can be used to store newer version of BIOS program. When updating BIOS program from the data disc, only the one in last session will be used. Other versions in previous sessions will be ignored.
3. Be noted that different writers might need different version on controller card to work properly. Users should be aware that using the proper version according to the writers installed on duplicator is more important than using the latest version.

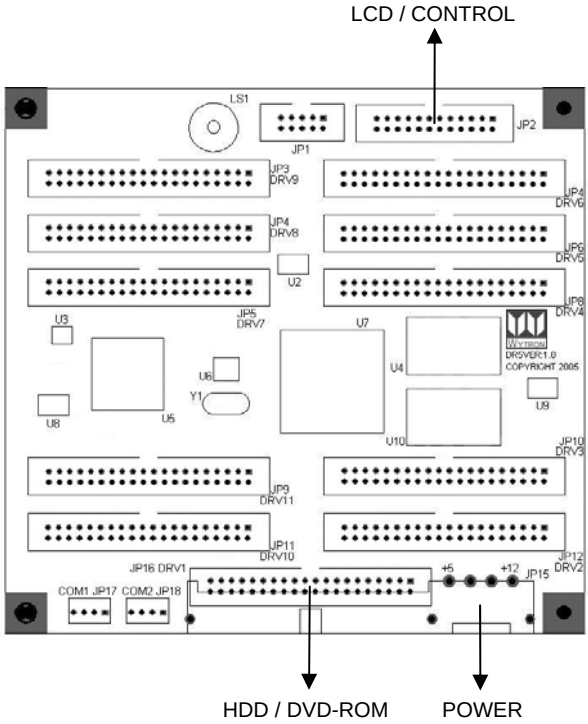
6.9 Reset

The reset procedure is required for several reasons such as: First assembling of duplicator, changing new brand of writers in old duplicator, wrong setting for certain function or bring back the factory's default setting according to different usages. Our design provides an easy way for customer to reset their controller cards as below:

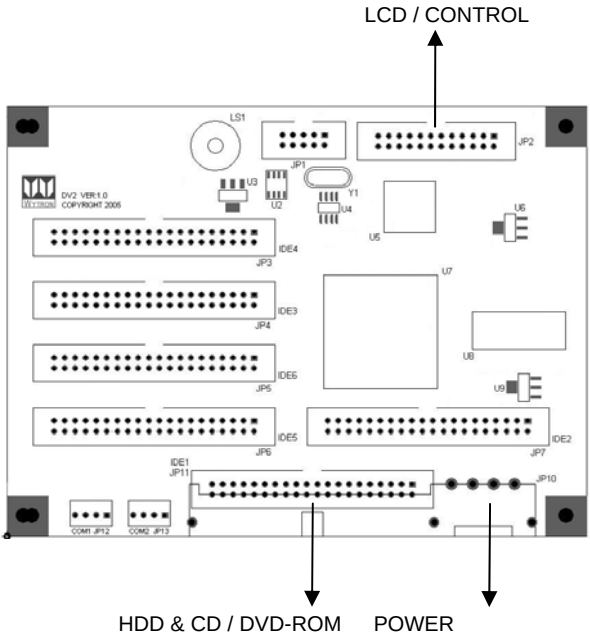
1. Turn off the power of duplicator and wait for 10 seconds. If the duplicator is not used at this moment, ignore this step and go to procedure 2 directly.
2. Press and hold down the MODE switch and turn on the power of duplicator simultaneously (the MODE switch must be held down at least 5 seconds while turning on the power of duplicator).
3. Release the MODE switch after the message of "clear setup" is shown on the top line of LCD display.
4. If the "clear setup" message is not shown, please repeat the whole procedure above but remain the finger on MODE switch all the time during power on till you see the message of "clear setup" on LCD display.
5. All setting on duplicator will be restored to its factory default setting after the "clear setup" message shown on the LCD display, which is a correct reset procedure. (Unlike the Update procedure which will keep the settings the same before BIOS Update.)

7. Circuit drawing

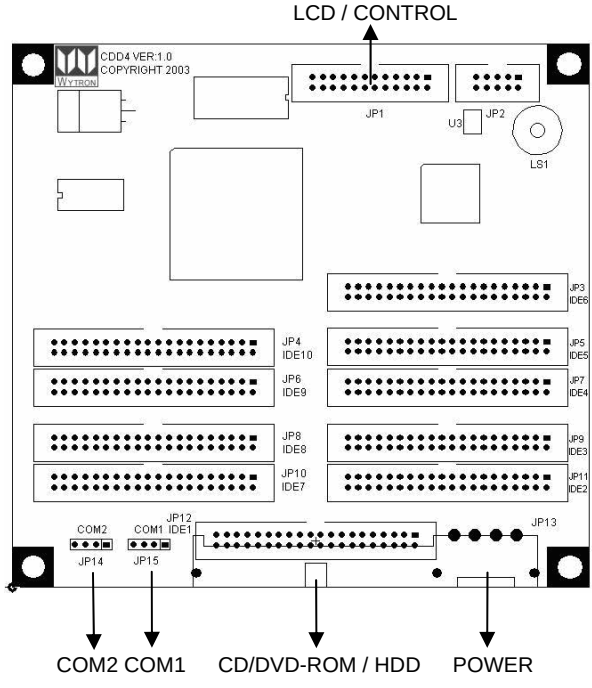
DVD-688 Controller Card



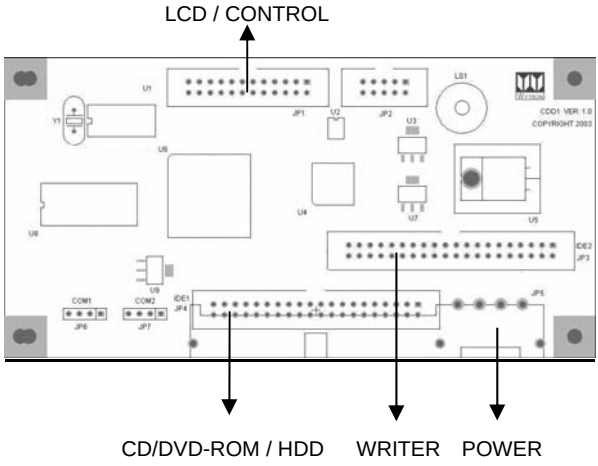
DVD-668 Controller Card



CD-398/DVD-399 Controller card



DVD-319 Controller Card



8. Trouble shooting

1Q: No display or only black squares on LCD display and the unit does not boot when power on.

A: Please check the connection of power cable and the power environment is normal.
B: Please check the fan of power supply. It should rotate if power-on. If not, the power supply might have problem.
C: Turn off the power of duplicator, open the case to check whether the power cable is fixed.

2Q: Error message shown on LED:

A: During operation like Copy, Emulate Write, compare and verify, you may press MODE switch to abort the operation. An Error message will be shown on the LCD. Some writers, abort will cause the duplicator to hang up and you have to re-start the power to return to normal operation.
B: Failed reading may cause the error message shown on the LCD display. Change the master disc to try again.
C: During operation, if read error, buffer under run or writing error occurs, the LCD will show error message like: Pass xx, failed xx.
D: If there is no device connected and detected by duplicator during power-on, the duplicator will show error message on LCD before entering the main menu.

3Q: CD/DVD-ROM doesn't read disc and shows Error message.

A: Check the master disc for damage.
B: Try to use writer to read the master to see if the master is defective or simply not compatible with CD/DVD-ROM.

C: Change the option of “CD-ROM drive” to switch the present CD/DVD-ROM into another one for testing.

4Q: Switches do not function.

A: Maybe still busy on task.
B: Switch blocked.
C: Button malfunction.
D: Faulty board.
E: Screws too tight for the button board.

5Q: COPY completed but CD/DVD disc is not readable / executable?

A: Use Compare function to check.
B: Change another CD/DVD-ROM drive to test.

6Q: The failed rate is high.

A: Lower the speed of writers and try again.
B: Quality of blank disc is poor.
C: Check for latest BIOS version, if on new installed machine.

7Q: Can’t boot-up or fail to upgrade BIOS.

A: Contact your dealer to solve the problem. Please note you may be charged for this.
B: Check the BIOS program is correct since normally customer will download wrong program or simply write the zipped file to CD that should be first unzipped before writing.
C: Failed upgrade might cause boot failure, returning the control cards to agent or factory directly to solve the problem.

9. Device support

For IDE CD-ROM:

1. ATAPI compatible CD/DVD-ROM reader.

Note: The default CD write speed on controller card is set to 32X due to poor reading performance on normal CD/DVD-ROM reader. If higher write speed is required, please install a hard drive and then copy from the hard drive to CD-R.

For IDE DVD-ROM:

1. ASUS E616p2/E616p3
2. ATAPI compatible DVD-ROM reader

Note: Normal ATAPI DVD-ROM reader can roughly reach 6X of DVD burning. If with 8X burning, the speed will not be reached enough for on-the-fly direct burning. For ASUS E616p2/p3 that supports the UDMA100 transfer mode, 8X of on-the-fly direct burning can be reached, if the UDMA66 feature activated on controller card.

For IDE CD-R/RW writer

1 Plextor W4012TA/W4824TA/W5232TA
2 Sanyo or Nichimen 1300 / 1400 / 1500 / 1600 / 1700
3 AOpen 48X, 52X
4 Acer 8432IA
5 Lite-On LTR-40125/48125/52246
6 Yamaha 8824E / 2100E / 2200E / 3200E / CRW-F1
7 Teac W524E / W540E / W552E
8 Traxdata or BTC 40X, 48X, 52X.
9 LG / Hitachi / CDRPro GCE-8240B
10 Smart 5224 (52X)
11 IOMega 48X, 52X
12 CyQ've 5252Pro (52X)
13 BenQ 48X, 52X
14 Asus 52X

For IDE DVD writer

1. Pioneer: 106/A06, 107/A07, 108/A08, 109/A09, 110
2. Ricoh: 5125A
3. Teac: W501
4. Sony: 500A, 510A, 520A, 530A, 700A, 710A, 720A
5. Plextor: PX-504A, PX-708A, PX-712A,
6. Sanyo/Nichimen/OptoRite: DD0201, DD0203, DD0401
7. NEC/IOMega: 1100A, 1300A, 2500A, 3500A, 3520A
8. NU/Ridata: DDW-081, 08041
9. IOMagic/Gigabyte: 1004, 1008, GO-W0404A
10. BenQ: DW400A, DW800A, DW822A, DW830A, DW1600/1610/1620/1630/1640
11. LiteON: 832S, 1613S, 1633S, 1653S, 1673S, 1693S

The brands or models of CD/DVD-ROM reader or CD/DVD writer that supported on our duplication controller card or duplication system may not be listed above.

10. Appendix

CONTACT THE DISTRIBUTOR IF TROUBLE OR PROBLEM ARISES. FOR PROMPT FEEDBACK & IMMEDIATE SERVICE, PLEASE ADVISE FULL DETAILS OF THE SYMPTOMS.

Please provide necessary information listed below when requesting the BIOS program from Wytron to make the technique support efficiently:

1. Model number of controller card.
2. Current BIOS version on controller card.
3. Brand and model of Installed writer.
4. Target number of installed writer.
5. Brand and model of installed CD/DVD-ROM reader.
6. Brand and model of installed HDD, if existed.
7. Drive connection situation on controller card.
8. Any detailed explanation for trouble, if any.